

ABSTRACT

METHOD AND APPARATUS FOR CODE PHASE TRACKING

5 A method of code phase tracking for CDMA type communication is disclosed together with apparatus including a GPS receiver (10 to 15) for the same. The method uses a modified early-minus-late correlation function to determine the code phase error between a target pseudorandom noise code of an incoming signal and locally generated replica codes. The early-minus-late correlation function is modified compared to the true function whereby the gradient of the modified function at zero code phase error is increased. This may be achieved by modifying the early-minus-late correlation function after its derivation. Alternatively, it may be modified by modifying variables from which it is derived and in particular, by modifying the either or both of the power spectrums of the subject signal or the early and late replica code signals whereby at least one odd harmonic is reduced in size or removed; at least one even harmonic is increased in size; or the bandwidth is truncating between harmonics so as to excise an adjacent even harmonic.

20 [Figure 2]